



KIRK TYPICAL APPLICATIONS

KIRK believes that everyone has the right to be safe at work! To ensure safety, the risk of hazardous energy and or equipment needs to be controlled. Our trapped key interlock safety systems and safety components provide our customers with solutions to control these risks.

KIRK's comprehensive product offering of mechanical, electro-mechanical, motion sensing, and integrated technology interlocks can form a complete interlock safety system customized for your unique safety application needs. Our interlock safety system can be incorporated into existing safety processes and LOTO procedures.

KIRK interlock safety systems can be found across all industries and manufacturing;

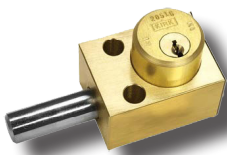
Automotive, Aviation, Chemical Processing, Farming, Food Processing, Metal Processing, Military, Mining, Pharmaceutical, Ports, Power Distribution, Power Generation, Pulp & Paper, Transportation, and more!

Included below are some typical applications where KIRK trapped key interlocks ensure safety through the control of permissions, isolation of power, and controlled access into hazardous areas.

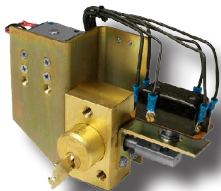
UPS - Power outages in environments where power is critical can have drastic implications and risks. Data centers, medical facilities, telecommunications centers, and more rely on an uninterruptible power supply, or UPS, during unstable weather or power conditions. A KIRK trapped key interlock system ensures that regular maintenance can be performed safely, and the UPS system can be placed in maintenance bypass mode, eliminating the risk of a redundant power source and protecting against hazardous energy.



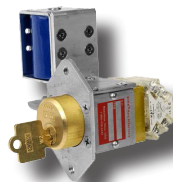
COMMON PRODUCTS USED:



Type F



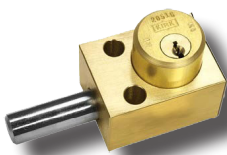
Type SKRU



Type SKPM

SWITCHGEAR - Within a substation, KIRK trapped key interlocks are used to ensure the isolation of hazardous energy for several switchgear maintenance applications. Preventing the paralleling of two energy sources, ensuring a breaker is locked open (or closed) for maintenance operations, preventing the disconnection of breakers under load, and minimizing the potential of a hazardous arc flash are just a few applications where trapped key interlocks can be found.

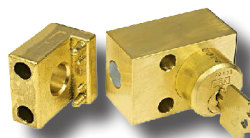
COMMON PRODUCTS USED:



Type F



Type PPS



Type D



ESP - (Electrostatic Precipitators) Electrodes in-excess of 10,000 volts are present within and ESP. To ensure the safety of employees performing maintenance, it is imperative that the hazardous energy is isolated and cannot be inadvertently re-energized during maintenance procedures. KIRK trapped key interlocks ensure that the power is isolated and grounded before hopper doors can be accessed. A typical ESP application includes trapped key interlocks on switchgear, transfer switches, access doors, and valves.

COMMON PRODUCTS USED:



Type F



Transfer Panel



Type DM



CEMENT - Process and risk control is a high-level of focus for factories, mining quarries, and production plants. Machine guarding is a necessity and KIRK trapped key interlocks and motion sensing units ensure that all residual motion from equipment such as crushers, shakers, mixers, and conveyors is no longer present before allowing access to hazardous areas. Trapped key interlocks ensure a predefined sequence of operations is followed each time a machine is shut down for maintenance; protecting equipment and saving lives.

COMMON PRODUCTS USED:



Type PPS



Type BEMF

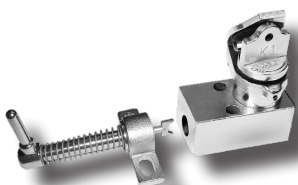


Type DM



FOOD & GRAIN PROCESSING - Equipment such as pellet mills and hammer mills create a dangerous workplace within the food and grain industry. Machine guarding is a necessity and KIRK trapped key interlocks and motion sensing units ensure that all residual motion from equipment is no longer present before allowing access to hazardous areas. Trapped key interlocks ensure a predefined sequence of operations is followed each time a machine is shut down for maintenance; protecting equipment and saving lives.

COMMON PRODUCTS USED:



Type DM



Type BEMF



Type TDKRU



WASTE & RECYCLING - We all want to do our part for the environment and KIRK wants to ensure we do it safely. Fast moving equipment such as balers, screens, conveyors, compactors, sorters, and shredders move through waste materials at alarming speeds. Protecting operators and manual responsibilities of people on this equipment is imperative. KIRK trapped key interlocks and motion sensing units guard equipment and protect people by ensuring all residual motion from equipment is no longer present before allowing access to hazardous areas. Trapped key interlocks ensure a predefined sequence of operations is followed each time a machine is shut down for maintenance, material jams, or mis-sorts; protecting equipment and saving lives.

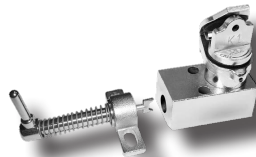
COMMON PRODUCTS USED:



Type D



Type PPS

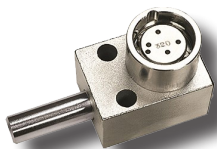


Type DM



LOCKOUT TAGOUT - Written LOTO procedures include; identifying the energy source(s), isolating the energy source(s), locking and tagging the energy source(s), and verifying that the energy isolation has been effective. Incorporating a trapped key interlock system with LOTO prevents personnel from mistakenly removing the lock and tag and re-energizing the equipment. KIRK trapped key interlocks ensures that a predefined sequence of operations is followed each time and removes human error or over site.

COMMON PRODUCTS USED:



Type F



LOTO Protective
Cover

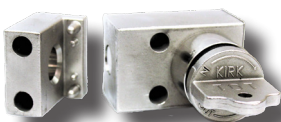


Type P



MACHINE GUARDING - KIRK's access interlock product offering provides solutions for all guarding applications, ensuring access permissions only once hazardous energy has been isolated. Incorporating access interlocks with time delay units or electro-motive force units adds additional safeguards to ensure residual energy has been fully dissipated and isolated prior to access.

COMMON PRODUCTS USED:



Type D



Type BEMF



Type DM

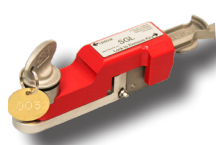


LOADING DOCKS - Salvo loading dock safety systems prevent drive-aways during loading/unloading by interlocking the trailer's air brakes with the dock door. This ensures that the trailer cannot depart until loading/unloading is completed and the dock door is locked closed. Salvo keeps your personnel and equipment safe and eliminates human error.

COMMON PRODUCTS USED:



Traffic Light



Gladhand



SCP



SADL



Beacon



PORTS - When a ship comes to port and is mooring at dock, ships equipped with an Alternative Maritime Power (AMP) cable reel are able to shut down their generators, reducing noise and air pollution, and connect to land based power. This process is also known as cold ironing. Using Kirk interlocks when connecting ship's power cables to on shore power will ensure that the cables are properly coupled to the junction box before energizing.

COMMON PRODUCTS USED:



Type DM



Type T



Type F



WIND TUNNEL - Wind tunnels, used for aerodynamic and acoustic testing in the automotive and aerospace industries, use one or more electrically driven fans to push or pull air through a test section. Some tunnels have one large fan, while others have multiple smaller fans. Around the wind tunnel, there are several full body access doors to allow for maintenance. It is critical to ensure no one enters the tunnel while in operation. Incorporating a trapped key interlock system ensures the proper sequence of energy isolation is performed. Introducing electromechanical interlocks within the system allows contacts to be tied into a PLC system, signaling when an interlock system has been engaged and the tunnel doors have been accessed. This process prevents unexpected startup until all maintenance is complete and everyone is safely out of the tunnel.

COMMON PRODUCTS USED:



Type PPS



Transfer Panel



Type D

